



Docket D-7211(1156)

CLAIMS (PREVIOUSLY AMENDED)
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Sub#1
~~1. A device for providing buoyant support comprising a member defining a cavity and a body disposed within said cavity, said cavity being adapted to contain a liquid and to have walls that generally conform horizontally in their shaping to the shape of said body to be received in said cavity and immersed in the liquid, said cavity being of a size that causes said walls to be closely spaced to side surfaces of said body so that the contained liquid exerts an upward buoyant force on said immersed body that is greater than the weight of the liquid that said body displaces within said cavity.~~

2. The device as defined in claim 1, in which a base of said cavity is also made to conform substantially to a base of said body or portion of said body to be immersed and made of a size that will permit said cavity to have a relatively close spacing to both said side surfaces and said base of said body so that a maximum buoyant force may be achieved with least amount of liquid.

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3. The device as defined in claim 1, in which said cavity and said body both have vertically extended walls of substantially uniform lateral dimensions to permit a substantially uniform horizontal spacing that is maintained at differing levels of body immersion.

4. The device as defined in claim 1, in which said cavity and said body both have sloping walls that reduce their spacing as said immersed body increases its immersion to increase the rate of increase in buoyant force.

Sub#2
~~5. A device for providing buoyancy support comprising a cavity formed in said device, said cavity being adapted to contain and confine a liquid, said cavity walls generally conforming in their shaping to shaping of a body to be received and immersed in a liquid disposable in said cavity, said cavity being of a size that confines space about a body so that a liquid in said cavity rises rapidly about a body, relative to its descent, and immerses a body with displacement of a lesser weight of liquid whereby an upward buoyant force is exerted upon an immersed body substantially equal to a greater weight of liquid that would be displaced by immersion of a body to the same extent in a liquid under unconfined conditions.~~

7. The device as defined in claim 5, wherein said cavity and a body are made with vertical walls having extended spans of lateral dimensional uniformity to permit a substantially uniform horizontal spacing that is maintained with differing levels of body immersion.

E1
8. The device as defined in claim 5, in which said cavity and a body are made to include non-vertical walls that cause walls of a body to move closer to said walls of said cavity when a body descends into said cavity so that the rate of increase in buoyancy relative to descent will be made to increase by increasing the rate of immersion.

9. The device as defined in claim 1, wherein a body to which said cavity has walls that generally conform horizontally in their shaping has a preexisting shape.

10. The device as defined in claim 5, in which a body to which said cavity walls are generally conforming in their shaping has a preexisting shape.

Sub 3
E2
~~15. A combination to generate buoyant force, and to demonstrate the principles of its generation, said combination comprising a body, a liquid and a member defining a cavity, said cavity being adapted to contain both said liquid and said body, said cavity having walls that closely conform to a shape of said body and which are closely spaced from said body when said body is placed in said cavity, said combination displacing a volume of liquid within said cavity that is less than an immersed volume of said body whereby a buoyant force is exerted on said body that exceeds the weight of said volume of liquid.~~

16. The combination as defined in claim 15, in which the said body to which said cavity walls closely conform has a shape that is preexistent.

Sub 5
~~17. The combination as defined in claim 15, wherein said cavity walls that closely conform to said shape of said body and which are closely spaced from said body when said body is placed in said cavity has a shape that is preexistent.~~

18. The combination as defined in claim 15, in which said cavity and said body have non-vertical walls, said walls of said body moving closer to said walls of said cavity as said body descends into said cavity so that the rate of increase in buoyancy relative to descent increases by increasing the rate of immersion of said body in said liquid.